Application No.: 10/758,966
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Remarks/Arguments

Claims 1-22 are in the application. Claims 1 and 13 are in independent form.

Claim Rejections – 35 U.S.C. § 102(e)

Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. App. No. 2003/0047691 of Musil et al. (Musil)

Applicants submit that Musil does not teach the invention of claim 1 or 13. In some embodiments, Musil teaches the use of an electron beam instead of a focused ion beam to etch an opaque defect material. Para. [0031]. Examples from paragraphs [0054] and [0055] include using an electron beam to etch tungsten, tantalum nitride, or other molybdenum-silicon compounds. In such embodiments, the electron beam is removing an opaque material from the surface of the substrate. It is not "restoring the transparency of a quartz material having implanted gallium" as recited in claim 1 or "restoring the transparency of the substrate of a transparent substrate having an implanted material that reduces the transmission of the substrate" as recited in claim 13.

In paragraph [0048], Musil teaches using an ion beam to etch some of the opaque defect material, while leaving 20-40 microns of the excess defect material to be removed by the electron beam. Musil teaches that because the ion beam penetrates 20-40 microns, by leaving 20-40 microns, little or no ions are not implanted into the underlying substrate; substantially all of the ions are implanted only in the 20-40 microns of defect material. The 20-40 microns of defect material with the implanted ions is then removed by the electron beam. This prevents ions from implanting into the substrate below the defect material and reducing the transparency of the substrate. Thus Musil does not teach using the electron beam to restore transparency to a substrate that has ions implanted; he teaches avoiding the implantation of ions into the substrate by stopping the ion beam with 20-40 microns of defect material remaining.

Lastly, in embodiments in which the defect excess phase shift material, Musil teaches against using an ion beam to repair the defect because of the contamination from the ion beam. Instead, he teaches the use of the electron beam to remove the excess phase shift material. Para

[0072]. Thus, no ions are implanted, and the electron beam is not restoring transparency to an ion-implanted substrate. Moreover, there is no indication that the thickness of the quartz is substantially unchanged as recited in claim 1. To the contrary, the phase shift is changed by changing the thickness of the quartz. Para. [0072].

Applicants submit, therefore, that Musil does not anticipate claim 1 or 13. Moreover, because Musil was published after the January 16, 2003 priority date of the present application and because the subject matter of Musil was, at the time the claimed invention was made, owned by the same entity or subject to assignment to the same entity as the present application, 35 USC 103(c)(1) precludes the use of Musil as a reference for a rejection under 35 USC 103(a).

Applicants submit, therefore, requests that a timely Notice of Allowance be issue in this application.

Respectfully submitted,

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